Greening Electronics Procurement
CEC Capacity Building Workshop
Tijuana, Mexico

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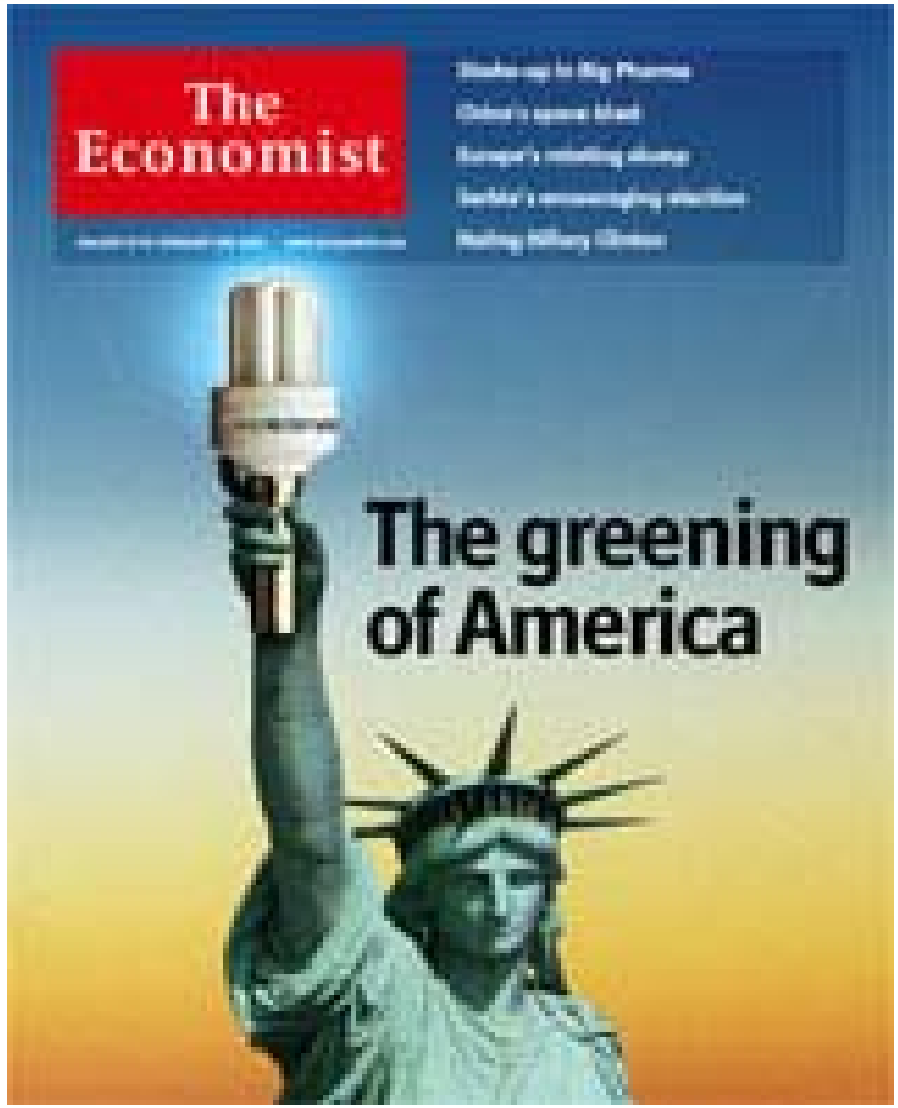
Outline

1. The (Business) Climate is Changing
2. The Fundamentals of Credible Green
3. A World of Standards
4. What Can Be Green about Electronics?
5. ENERGY STAR, EcoLogo and EPEAT
6. CEC Project

Business Has Gone Green

Green Marketing Everywhere

- Eco-safe
- Environmentally friendly
- Earth friendly
- Earth smart
- Environmentally safe
- Practically non-toxic
- Biodegradable
- Recyclable



Purchasing has Gone Green

Environmental labels echo the marketing claims

- Blue Angel
- CFPA
- CPG
- DfE
- Eco Mark
- EcoLogo
- Ecomark
- Eco-OK
- ENERGY STAR
- Environmental Choice
- EPEAT
- EU Flower
- Fair Trade
- FSC
- GBI
- Good Green Buy
- Green Label
- Green Seal
- GREENGUARD
- Greenstar
- LEED
- MSC
- Nordic Swan
- Process Chlorine Free
- SCS
- SFI
- TCO
- Totally Chlorine Free
- USDA-Organic
- WaterSense

The Core Message:

Regulation is not the only way to move brand name companies to improve the environmental performance of their products!

And when the brand name companies move, they move all their suppliers!

In a World Gone **Green**….

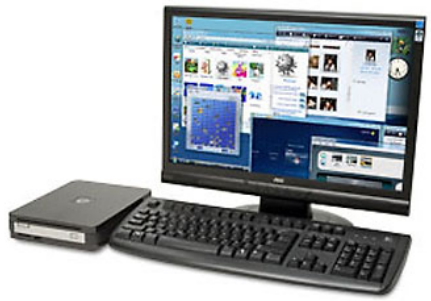
- Who gets to say what is green?
- How do we know when green claims are true?

Back to the Fundamentals

- What makes a product green?
  - Show me the science.
  - Is there a broad stakeholder consensus?
  - Is it relevant?
  - Have trade-offs been considered?
  - Is the bar fixed, or can it rise as we learn?

More Fundamentals

- What makes for a credible green claim?
  - Is it substantiated?
  - Is it specific?
  - Is it independently verified?
  - Is it transparent?



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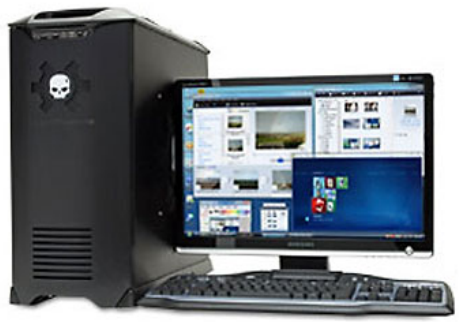


Enter the World of Standards

- The electronics world is dominated by industrial standards
  - So my wireless talks with yours
- Industrial standards – established through open, balanced, consensus processes
  - Led by a Standard Development Organization (SDO)
  - Under rules set by national standards bodies
    - e.g. American National Standards Institute (ANSI)

Why Is Such a Bureaucracy Necessary?

- To assure a level competitive playing field
- To protect against trade barriers
- To deliver us products that do what they promise

National and International Consensus Standards and the Environment

- ISO 14000: 14001 EMS; 14020 eco-labels; etc.
- Supply chain management standards
  - JIG 101: Materials composition declaration
  - IPC 1751/1752: Materials declaration
  - ISO/IEC 17050: Declaration of conformity
- IEEE 1680-2006
  - Multi-attribute environmental product standard
  - The EPEAT standard

The Many Dimensions of Green Electronics

- Are its materials safe and sustainable?
- Is it conservative of energy?
- Is it designed for responsible recycling?
- Is there a way to reuse and recycle it?
- Is that way environmentally responsible?
- Will it last? Can it be upgraded?
- Is the packaging environmentally friendly?
- What about corporate practices?

If the market is such a powerful tool for change, what's a purchaser to do?

The purchasers' grail: An easy to use, credible registry of green products.

Three North American Eco-labels for Electronics

- ENERGY STAR
- EcoLogo
- EPEAT

ENERGY STAR

- ENERGY STAR is a U.S. government-backed program dedicated to helping individuals protect the environment through superior energy efficiency

- Products that have qualified to ENERGY STAR meet strict energy-efficiency guidelines set by the US Environmental Protection Agency and the Department of Energy

ENERGY STAR and IT

- Program launched in 1992, now addresses
  - Computers (notebooks, desktops, workstations)
  - Imaging Equipment (copiers, printers)
  - Monitors
  - External Power Supplies
  - Servers
  - Overall 35 product categories
- Early versions addressed low power mode --- new versions include active mode

The ENERGY STAR Qualification System

- Manufacturers self-declare products to the ENERGY STAR specifications
  - Requirements and tests are specified
- EPA selectively tests products
- EPA routinely monitors the use of the label on products in the market place
- EPA periodically updates the specifications

Identifying ENERGY STAR Products

- The ENERGY STAR label
- Products are listed on www.energystar.gov

ENERGY STAR Internationally

- Agreements are established with government agencies in various countries.
- To provide a single set of energy-efficiency qualifications, instead of a patchwork of varying country-specific requirements.

terrachoice

environmental marketing

A Private, for profit eco-label organization

Under a Partnership with Environment Canada

- Develops standards
- Certifies products
- Helps market certified products

EcoLogo Certification System

- Standards developed through open, public process
  - Approved by Environment Canada
  - TerraChoice issues/promotes the standards
- Third-party certification of products by Terrachoice with onsite audit
- License agreement with manufacturer to use label

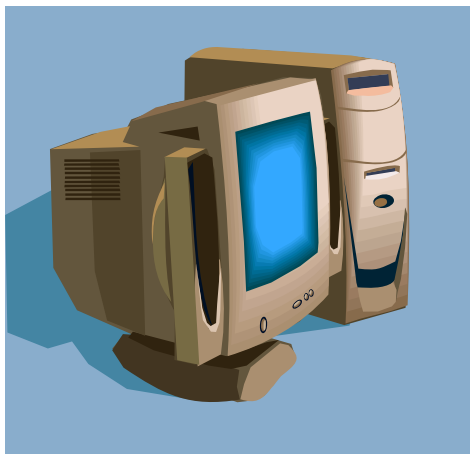
TerraChoice Certified Products

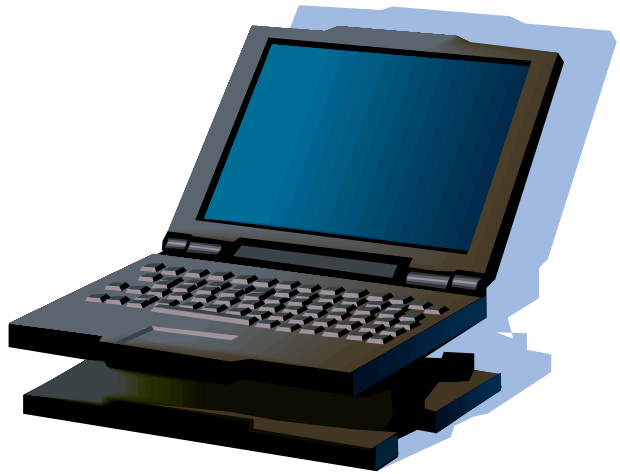
- Overall 120 standards and 7000 products
- Certified Office Products
  - Photocopiers
  - Laser jet desktop printers
  - Fax machines
- www.ecologo.org

What is EPEAT?

Electronic Product Environmental Assessment Tool

An environmental procurement tool designed to help institutional IT purchasers address environmental concerns in their purchasing of desktop computers, laptops and monitors.





The EPEAT System

1) IEEE Standard 1680-2006 for the Environmental Assessment of Personal Computer Products Standard
   - ANSI Standard
   - Comprised of 51 environmental criteria
2) EPEAT Registry
   - To identify conforming products
   - Managed by Green Electronics Council

EPEAT Environmental Performance Categories

- Environmentally Sensitive Materials
- Materials Selection
- Design for End of Life
- Product Longevity/Life Cycle Extension
- Energy Conservation
- End of Life Management
- Corporate Performance
- Packaging

EPEAT Tiers

EPEAT Bronze – Meets all 23 required criteria

EPEAT Silver – Meets all required criteria and at least 50% of the optional criteria

EPEAT Gold – Meets all required criteria and at least 75% of the optional criteria

EPEAT Product Verification

- Similar to ENERGY STAR®
- Companies:
  - Sign legal agreement to participate
  - Register products as conformant
  - Must have specific verification evidence for all criteria
- Product declarations routinely verified:
  - Random timing, no advance notice
  - Conformance decided by independent panel
  - Results published, total transparency

EPEAT Registered Products

	EPEAT BRONZE	EPEAT SILVER	EPEAT GOLD	Total
Desktops	23	102	12	137
Integrated Systems	6	5	0	11
Monitors	17	235	1	253
Notebooks	31	271	9	311
Total	77	613	22	712

As of Dec. 1, 2007. See www.epeat.net.

24 Participating Manufacturers

- Apple
- CIARA-TECH
- CTL
- Dell
- Enano Computers
- Fujitsu
- Gateway
- HP
- Hyundai IT America
- Lenovo
- LG Electronics
- MDG Computers CN
- MPC Computers
- NEC Display
- Northern Micro
- Panasonic
- Philips Electronics
- Prosys Tech Corp
- Samsung
- Sona
- Sony Electronics
- Toshiba
- Viewsonic
- Zonbu

Purchasers Using EPEAT

- US Federal Government: approx $45 billion in contracts
- Canada: Federal Government Master Agreement, Province of Nova Scotia
- UK: Office of Communications
- New Zealand: Environmental and Defense ministries
- Private Sector: Kaiser Permanente, Premier Inc. (healthcare GPO), McKesson, HDR
- Cities including Phoenix, AZ, San Jose , CA, Seattle, WA
- US States: Oregon, Washington, New York, California, Massachusetts

EPEAT Environmental Benefits

First 6 months vs conventional products:

- 13.7 b. kWh saved = 1.2 million US homes/ 1yr
- 24.4 million metric tons materials reduced
- 56.5 million tons air pollution, including 1.07 million tons of GHG = 852,000 cars/yr
- Prevents 118,000 metric tons water pollution
- Reduces toxic materials use by 1,070 metric tons
- Avoids disposal of 41,000 metric tons of hazardous materials

EPEAT Dimensions of Growth

- New product standards
  - Imaging devices, TVs, servers, hand helds
- International use
- Consumer space

GEC Projects with CEC

- Management of chemicals of concern in electronic product manufacturing with focus on SMEs
  1. Supply chains for manufacturing and end-of-life
  2. Case studies in clean production
- Outputs
  - Models of supply chain management with focus on challenges faced by SMEs
  - Awareness pieces and tool kits for clean production
  - Recommendations for CEC role to assist SMEs

CEC Projects

- Project team
  - Canada: Kelleher Environmental – Maria Kelleher
  - US: GEC – Wayne Rifer & Pamela Brody-Heine
  - Mexico: Dr. Guillermo Roman

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